CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

Amendments to Appendices I and II of CITES

Thirteenth Meeting of the Conference of the Parties
Bangkok (Thailand), 2 – 14 October 2004

A. PROPOSAL

Inclusion of the genus *Malayemys*, currently known to contain the single species *Malayemys subtrijuga,* in Appendix II in accordance with Article II 2(a) of the Convention, and to satisfy Criterion B) i) in Annex 2a of Resolution Conf. 9.24.

B. PROPONENTS

The United States of America in accordance with the consensus recommendations of the CITES-sponsored Technical Workshop on Conservation of and Trade in Freshwater Turtles and Tortoises in Asia, held in Kunming, China in March 2002, and the Animals Committee Working Group on Tortoises and Freshwater Turtles.

C. SUPPORTING STATEMENT

1.1 Taxonomy

1.1 Class:	Reptilia
1.2 Order:	Testudines (Chelonia)
1.3 Family:	Bataguridae (Geoemydidae)
1.4 Genus:	*Malayemys* Lindholm, 1931
Species:	*Malayemys subtrijuga* (Schlegel and Müller, 1844)
1.5 Scientific synonyms:	*Emys subtrijuga* Schlegel and Müller 1844 *Damonia subtrijuga* Schlegel and Müller 1844 *Geoclemys subtrijuga* Schlegel and Müller 1844 *Geoclemys macrocephala* Gray 1859 *Emys nuchalis* Blyth 1863 *Damonia crassiceps* Gray 1870 *Damonia oblonga* Gray, 1871
1.6 Common names:	English: Malayan snail-eating turtle French: Malayémyde à trois arêtes Spanish: Bahasa Indonesia: Kura-Kura Pemakan Siput Bahasa Malaysia: Jelebu Siput German: Malayen-Sumpfschildkröte Khmer: Andoeuk Sakal Lao: Tao Saam San Thai: Tao Na Vietnamese: Rua Ba Go
1.7 Code Numbers:	

1.8 Taxonomic notes: The genus *Malayemys* has been recognised nearly unanimously since the 1960s, and has consistently contained only the species *subtrijuga* (Wermuth and Mertens 1961/1996,

Taylor 1970, Iverson 1992). No subspecies or sibling species have been recognized, although Brophy (2002) recently argued that the Mekong population is taxonomically recognizable at the species level.

2. Biological Parameters

2.1 Distribution

Malayemys is found in Cambodia, Indonesia, Lao P.D.R., Malaysia, Thailand, Viet Nam, possibly Myanmar. Cambodia: *Malayemys* inhabits lowland wetland areas throughout Cambodia (Touch Seang Tana *et al*. 2000). Indonesia: Whether the occurrence of *Malayemys* in Java is a result of introduction in historical times (as suggested by Dammerman 1929) or represents a relictual distribution from a wider Pleistocene distribution (Barbour 1912, van Dijk and Thirakhupt in press) remains undecided. Occurrence in Sumatra has been suggested (Iverson 1992, Iskandar 2000), but the species has not been confirmed during herpetological or trade surveys (de Rooij 1915, Fritz and Gaulke 1997, Shepherd 2000). Lao P.D.R.: *Malayemys* has been recorded in the lowlands of the central and southern regions (Stuart 1999, Stuart *et al*. 2002). Malaysia: *Malayemys* is confirmed to occur in Perlis (and may occur in the adjoining part of Kedah), and inhabits the East Coast *Melaleuca* swamps of Terengganu and perhaps Kelantan (Sharma 1999, Sharma and Tisen 2000). Myanmar: *Malayemys subtrijuga* was listed as 'not yet recorded; possibly occurs in Tenasserim' by Platt *et al*. (2000). Thailand: *Malayemys* inhabits lowland wetlands throughout Thailand (Taylor 1970, Nutaphand 1979, van Dijk & Palasuwan 2000). Viet Nam: *Malayemys* has been well documented from the southern lowlands (Bourret, 1941; Nguyen & Ho, 1996; Hendrie, 2000).

2.2 Habitat availability

Malayemys subtrijuga inhabits most lowland water bodies, including ponds, canals, wet rice fields, swamps and rivers. It ranges from tidally influenced upper estuarine regions to a maximum altitude of about 300 m (Srinarumol 1995, Thirakhupt and van Dijk, 1995, van Dijk and Thirakhupt in press). Suitable habitat is available throughout the range of *Malayemys*. Much of the original floodplain wetland habitat inhabited by the species has been converted to agricultural use, but *Malayemys* has apparently adapted to changed land use and irrigation infrastructure development associated with irrigated rice culture through much of its range.

2.3 Population status

Cambodia: *Malayemys* was considered to be 'probably the most abundant turtle species in Cambodia' (Touch Seang Tana *et al*. 2000). Nevertheless, it was considered Vulnerable in Cambodia by 1999 (IUCN/SSC TFTSG and ATTWG 2000). Indonesia: *Malayemys* has in recent times been rated 'Rare' in Indonesia (Samedi and Iskandar 2000, Iskandar 2000). Lao P.D.R.: By the late 1990's, *Malayemys* continued to survive in appropriate habitat throughout Lao P.D.R., although populations were probably quite reduced (Stuart and Timmins 2000). The species was considered Potentially at Risk (Stuart 1999) and Vulnerable in Lao P.D.R. by 1999 (IUCN/SSC TFTSG and ATTWG 2000). Malaysia: Within its restricted area of occurrence, *Malayemys* is 'fairly abundant in rice fields in the State of Perlis'. No status data is available for other Malaysian populations (Sharma 1999, Sharma and Tisen 2000). Myanmar: *Malayemys* is not confirmed to occur and no status data exist for Myanmar (Platt *et al*. 2000). Thailand: *Malayemys* has traditionally been the most frequently encountered freshwater turtle species in the lowlands of Thailand (Taylor 1970). The most recent status assessments of *Malayemys* in Thailand considered the species not uncommon to reasonably common, with populations stable or in modest decline (van Dijk 1999, van Dijk and Palasuwan 2000). *Malayemys* was not listed in the OEPP (1997) Red List of threatened species in Thailand. Viet Nam: Historically, *Malayemys* was common in the lowlands of southern Viet Nam (Bourret 1939, 1941), but considered very low by the late 1990s (Touch Seang Tana *et al*. 2000). *Malayemys* was categorized as Vulnerable in Viet Nam in 1999 (IUCN/SSC TFTSG and ATTWG 2000).

2.4 Population trends

As detailed in section 2.3, populations of *Malayemys* have either remained fairly stable (Thailand) or have declined substantially (Cambodia, Lao P.D.R., Viet Nam). Populations in Indonesia, Malaysia, and perhaps Myanmar are localized and no trend data are available. Throughout its overall area of occurrence, *M. subtrijuga* was assessed as Vulnerable by criteria A1d+2d in the *2000 IUCN Red List of Threatened Species*, a significant increase considering that the species was assessed but not considered threatened in the 1996 Red List (IUCN/SSC TFTSG and ATTWG 2000). The A1d+2d criterion for a Vulnerable species indicates an observed, estimated, inferred or suspected population reduction of at least 20% over the last three generations, based on levels of exploitation pressures, and projected to continue during the next three generations.

2.5 Geographic trends

Available information indicates that populations in Thailand have been exposed to modest levels of exploitation over a long period, resulting in reasonable population densities, but with very few large old animals present. In Cambodia and Viet Nam, populations were traditionally less exploited but have recently come under very intensive collection pressure.

2.6 Role of the species in its ecosystem

Small *Malayemys* feed almost exclusively on aquatic snails, while large females also eat freshwater mussels (Srinarumol 1995). Monitor lizards (*Varanus* spp.) and large-billed crows (*Corvus macrorhynchos*) actively kill and consume this species (van Dijk and Thirakhupt in press). It is unknown if *Malayemys* can spread schistosomiasis [bilharzia], a serious human parasite whose intermediate hosts are a variety of freshwater snail species on which *Malayemys* feeds.

2.7 Threats

Many *Malayemys* populations are exploited for consumption, particularly large gravid females. In certain areas, eggs are also collected for consumption. However, this is a small species: males never reach a size that is appropriate for consumption, and females probably reach sexual maturity and produce some offspring before they reach a size large enough to be interesting for consumption purposes. Consequently, modest collection for subsistence consumption appears to have less impact on this species than on most other turtles (van Dijk 1999, van Dijk and Palasuwan 2000, van Dijk and Thirakhupt in press). Indiscriminate collection of animals of all sizes for the international food trade represents a more significant threat to populations (Sharma and Tisen 2000).

Small animals, up to 10 cm CL, may be marketed in large numbers for release at temple ponds, an act of religious devotion (Hendrie 2000, van Dijk and Palasuwan 2000). Before 1992, many of these small animals also entered the international pet trade from Thailand.

No data are available on accidental capture and subsequent drowning in monofilament fishing nets, but given the extensive use of such nets in the species' range, this may represent a serious threat, particularly in semi-protected areas like Non-Hunting Areas (van Dijk 1999, van Dijk and Palasuwan 2000).

Other potentially significant threats to the species, are habitat deterioration and loss from increasing use of pesticides and other agro-chemicals, a growing rural population without adequate sewage and waste disposal facilities, and drainage of wetlands (van Dijk 1999, Sharma and Tisen 2000, van Dijk and Palasuwan 2000).

3. Utilization and Trade

3.1 National utilization

Cambodia: Turtles and their eggs are widely esteemed as food, medicine, pets, and other purposes

in Cambodia and collection for subsistence use and local trade were extensive until recently, when consumption and utilization of freshwater turtles became illegal (Touch Seang Tana *et al*. 2000, Ing Try and Poum Sotha 2002). Indonesia: Although information is lacking, it is presumed to be at low levels, if any. Lao P.D.R.: *Malayemys* was observed frequently in markets, where it was sold both for local and regional consumption, as well as international trade (Stuart and Timmins 2000). Malaysia: *Malayemys* was reported to be used as a source of meat (Sharma and Tisen 2000), but was not recorded during recent surveys of domestic turtle trade (both pet and food trade) in Peninsular Malaysia (Moll 1976; Moll, in Sharma, 1999; Sharma 1999). Thailand: Collection for release for Buddhist merit-making and consumption have dwindled greatly since protection of the species in 1992. Viet Nam: Species is heavily collected for the wildlife trade, being the most common and highest-volume species sold in markets (Le Dien Duc and Broad 1995, Lehr 1997, Hendrie 2000). In 1993-1994, *Malayemys* traded between VND 20,000 to 90,000 per kg (USD 2.00-9.00/kg) (Le Dien Duc and Broad 1995). By February 2000, small individuals sold as pets in Hanoi commanded VND 30,000 each (USD 2.14) (CPCP 2000). Species is also believed to be one of the most common turtles released as part of Buddhist religious practices (Hendrie 2000, CPCP 2000).

3.2 Legal international trade

Cambodia: From the early 1990's, Cambodia formed an important source of turtles, including *Malayemys*, imported into Viet Nam. The turtle trade amounted to several tons per month at that time (Le Dien Duc and Broad 1995). During the 1998-1999 fishing season, the government agency KAMFIMEX licensed export under quota of an estimated 100 tons of turtles by air to Guangzhou and Hong Kong. However, since Cambodia extended its wildlife resource protection legislation to freshwater turtles in 2000, legal exports have ceased. Indonesia: Indonesia has established annual harvest quota for *Malayemys*, which amounted to 5,750 specimens in each of the years 1998 and 1999, 300 specimens in 2000, and 2,250 in 2001. Recorded exports during these years amounted to 52 specimens in 1998, 55 in 1999, 160 in 2000, and 803 in 2001 (Samedi *et al*. 2002). Lao P.D.R.: Stuart and Timmins (2000) and Stuart *et al*. (2000) reported extensive harvest, trade, and export of freshwater turtles of all species inhabiting the country, including *Malayemys*, with exports almost exclusively traded to Viet Nam and China. Malaysia: About 40 to 60 *Malayemys* were observed at a trader in Perlis, which were destined for export to China (Sharma and Tisen 2000). Viet Nam: Statistics from the FPD CITES Office recorded that a total of 2,620 *Malayemys* were exported from Viet Nam during the period 1994-1999 (Hendrie, 2000). P.R. China: *Malayemys* is among the more voluminous species imported into the P.R. China. Permits were issued for the import of 11,300 *Malayemys* during the year 2000, representing 1.3% of total recorded wild-harvested turtle imports (Endangered Species Import and Export Management Office, P.R. China 2002). No import permits were issued or recorded for *Malayemys* during 1998 and 1999. However, actual quantities traded may be lower than quantities indicated on permits due to permit validity and logistic restrictions, or may be higher due to identification errors and irregularities, imposing some uncertainty on these statistics. Substantial quantities of *Malayemys* have been offered for sale in several markets in southern China (Farkas and Sasvari 1992, Lau *et al*. 1995, Lau and Shi 2000, Meier 2000, Artner and Hofer 2001). Hong Kong S.A.R.: *Malayemys* was initially one of the more common species in trade, but it disappeared completely from visible trade during the period 1995-1999 (Lau *et al*. 2000).

3.3 Illegal trade

Cambodia: By 1999, a comprehensive network of provincial middleman traders stretched across the country and was believed to turn over quantities greatly exceeding the legal export trade under quota, i.e. much more than 100 tons of turtles per year. The great majority of this was exported to Viet Nam. Based on the composition of Vietnamese confiscations, *Malayemys* represented a very substantial proportion of this supply (Jenkins 1995, Touch Seang Tana *et al*. 2000, Stuart *et al*. 2000). However, recent enforcement of strengthened protective legislation appears to have reduced illegal trade (Ing Try and Poum Sotha 2002). Myanmar: *Malayemys* is not known to engage in domestic or international trade for this species. Thailand: Modest local rural and regional domestic trade continues, but appears fairly insignificant (van Dijk and Palasuwan 2000). Viet Nam:

Malayemys is a common and at times very large component of wildlife trade shipments confiscated on the land route at Ninh Binh and Hanoi (CPCP 2000a, CPCP 2000b, Hendrie 2000). Hong Kong S.A.R: A total of 15 *Malayemys* were among the total of 7,544 turtles confiscated by Hong Kong Customs and AFCD in December 2001 (Ades 2002).

3.4 Actual or potential trade impacts

The details of population status and trends (sections 2.4 and 2.5, above) show that recent exploitation pressures resulting mainly from demand for the species through international trade have been a significant cause of depletion of populations throughout the species' range, but particularly in Cambodia, Lao P.D.R and Viet Nam. Samedi and Iskandar (2000) predicted that without further control on the trade, Indonesia's native species of freshwater turtles, including *Malayemys subtrijuga*, 'will certainly decline'. In 2002, Samedi *et al.* concluded that 'trade in freshwater turtles and tortoises, together with habitat loss and destruction, has contributed to the decline in the populations. The population decline can be indicated from the decline of the trade figures over time despite the stable or even increased demand.'

Inclusion of *Malayemys* in Appendix II is intended to regulate and monitor exploitation of the species for international trade, and will reduce illegal or quasi-legal international trade in the species as it affords greater control over imports in recipient Parties. Inclusion of *Malayemys* is expected to lead to a higher level of scrutiny of trade levels and the status of biological data used to determine acceptable trade levels. This can be accomplished through non-detriment findings, quotas, and other mechanisms.

In Indonesia, *Malayemys* in CITES Appendix II will result in a transfer of jurisdiction over management of the species from the Fisheries Department to the Directorate General of Forest Protection and Nature Conservation of the Ministry of Forestry (Indonesian CITES Management Authority).

3.5 Captive breeding or artificial propagation for commercial purposes (outside country of origin)

Malayemys subtrijuga is highly susceptible to diseases, parasites, and stress when maintained in captivity, both within and outside its natural range (Nutaphand 1979, Thieme 1980, Nöllert 1982, Ades 2002, van Dijk and Thirakhupt, in press). Eggs obtained from wild nests can be incubated and the hatchlings can be raised easily without significant losses (Srinarumol 1995), but few adult animals have survived in captivity long enough to produce eggs. As a result, while the species has been observed in commercial farms, no captive breeding of the species has been confirmed to occur (Bundesamt für Naturschutz 2003). Correspondingly, the species is not known to have been successfully bred in captivity by zoos or private hobbyists.

4. Conservation and Management

4.1 Legal status

4.1.1 National

Cambodia: Law No 33 (Department of Fisheries) is the main law on exploitation of aquatic animals, while Law No 35 (Department of Forestry) is the main law on exploitation of terrestrial animals. Joint Declaration (Ministries of Agriculture and Environment) No 1563 states that wild animals cannot be hunted with traps, explosive materials, or poison. Their products cannot be sold, commercialized, exploited, transported, or served in restaurants (Touch Seang Tana *et al*. 2000). Declaration No 359 protects "nationally threatened" wild animal species. No turtles currently are listed, but could be added in the future if they are shown to be threatened (Ing Try and Poum Sotha 2002). Government Decision 01 (Department of Forestry) aims to end illegal trade in land animals. Government Decision 02 (Department of Fisheries) aims to end illegal trade in aquatic animals (Touch Seang Tana *et al*. 2000). Indonesia: *Malayemys* is currently not protected by domestic Indonesian

legislation. Until it is included in domestic species protection, it is considered a fishery resource under Act No. 9/1985 concerning Fisheries. Under this act, permits for exploitation and trade of specific quantities of freshwater turtles are issued by the local district (regency) government through its Fisheries Services (Samedi *et al*. 2002). Lao P.D.R.: *Malayemys* was not listed in previous wildlife regulations in force in Lao P.D.R. (Jenkins, 1995). Wildlife legislation has come under review in Lao PDR in recent years. The current legislation (Decree of the Council of Ministers No. 118/CCM on the Management and Protection of Aquatic Animals, Wildlife and on Hunting and Fishing, 1989) apparently does not, protect freshwater turtles from exploitation (Stuart and Timmins, 2000). Malaysia: Malaysian legislation governing freshwater turtles is complicated by its division of responsibilities between Federal and State authorities regulating Wildlife and Fisheries. State fisheries legislation in Kelantan can be interpreted to protect *Malayemys*. State legislation in Perlis, Kedah, and Terengganu apparently does not cover the species. Exports of freshwater turtles from Peninsular Malaysia is under the purview of the Federal Department of Wildlife and National Parks of Peninsular Malaysia. (Gregory and Sharma 1997, Sharma and Tisen 2000). Myanmar: *Malayemys subtrijuga* is listed as a Protected Species in the Protection of Wildlife, Wild Plants and Conservation of Natural Areas Law of Myanmar, 1994. The Act also provides for the establishment of protected areas (U Kyaw Moe *et al*., 2002). Thailand: *Malayemys subtrijuga* is fully protected from all forms of exploitation under the Thai Wild Animals Reservation and Protection Act, B.E. 2535, by listing in Schedule 2 (2 special). Viet Nam: *Malayemys* is not covered under 'Ministerial decree No 18 of the Council of Ministers Stipulating the Categories of rare and precious forest fauna and flora, and their management and protection, dated 17 January 1992' (Le Xuan Canh *et al*. 2002). Directive 359 (1996) restricts trade in wildlife and animal parts, including prohibiting the sale of wildlife in restaurants. Commerce and trade regulations require a permit issued at the provincial level for trade in any commodity, including wildlife. Circular 62/2001/TT-BNN issued on 05 of June 2001 by the Ministry of Agriculture and Rural Development to guide imports and exports of goods and commodities managed by the Ministry for the period of 2001-2005 stipulates that Vietnam prohibits exports of all wild animals and rare and precious plants. Thus export of *Malayemys* and all other native turtle species is presently prohibited. (Le Xuan Canh *et al*. 2002).

4.1.2 International

Malayemys subtrijuga is not specifically covered by bilateral or inter-governmental legislation. Under Notice of Strengthening the Trade Management on Turtles and Tortoises, issued on June, 17, 2001, the People's Republic of China suspended all commercial imports of all turtles from Cambodia, Indonesia, and Thailand, including *Malayemys subtrijuga*. All imports of turtles into China from other countries need to be accompanied by export permits or certificates from the exporting country. Turtle imports are restricted to a small number of designated ports and airports.

4.2 Species management

4.2.1 Population monitoring

No specific population monitoring efforts for *Malayemys* are known to have been carried out, to be in progress, or to be in preparation in any of the Range States. Incidental population assessments are summarized in sections 2.3 and 2.4 regarding population status and trends.

4.2.2 Habitat conservation

Cambodia: *Malayemys* is widespread in the Tonle Sap system, parts of which are effectively protected. The species was not encountered during surveys of the Cardamom mountains (Daltry and Chheang Dany 2000). Indonesia: *Malayemys* is not confirmed to inhabit protected areas in Java or Sumatra. Lao P.D.R.: *Malayemys* has been observed in

Lao P.D.R. mainly as collected animals in villages within National Biodiversity Conservation Areas. This indicates that the species inhabits NBCAs, but also that these populations are not secure from exploitation (Stuart 1999). Malaysia: The Jambu Bongkok Recreational Forest in Terengganu is Peninsular Malaysia's only protected *Melaleuca* swamp habitat area (Sharma and Tisen 2000). The occurrence of *Malayemys* has not been specifically confirmed within this or any other Malaysian protected areas. Thailand: A substantial number of protected areas exist which offer suitable habitat for *Malayemys subtrijuga*, including Bung Boraped NHA and Thale Noi NHA, but no substantial populations have been confirmed to inhabit effectively protected areas (van Dijk and Palasuwan 2000). Viet Nam: No specific population information is available for *Malayemys* in Vietnamese protected areas. The species occurs in U Minh Thuong National Park and other protected areas (e.g., Cat Tien N.P.) provide suitable habitat.

4.2.3 Management measures

No specific management measures for *Malayemys* are known to be in place or planned in any of the Range States.

4.3 Control measures

4.3.1 International trade

Exported specimens are subject to national regulations pertaining to species trade, customs, and quarantine measures when entering the importing country. In most countries, regulations require compliance with the International Air Transport Association (IATA) regulations concerning the shipping of live animals, as a condition for acceptance or transit passage through airports (IATA Live Animals Regulations, Chapters 1 and 2). In addition, most airlines require shipping of live turtles to comply with the IATA regulations (IATA Live Animals Regulations, Appendix A).

4.3.2 Domestic measures

All Range States with domestic legislation protecting *Malayemys subtrijuga* and/or parts of its habitat make efforts to implement these protective measures, though turtles often remain a low priority (Ing Try and Poum Sotha 2002, Lauprasert *et al*. 2002). Indonesia is the only Range State which has implemented a quota system for *Malayemys subtrijuga*. Monitoring and implementing the quota continue to present challenges.

5. Information on Similar Species

Malayemys subtrijuga is distinctive enough in its appearance that it is unlikely to be confused with other turtle. Its bold creamy head stripes resemble *Cuora amboinensis* (Samedi *et al*. 2002) (CITES Appendix II), but it is easily differentiated by the solid plastron of *Malayemys* versus the clearly hinged, moveable plastron of *Cuora*.

6. Other Comments

Inclusion of *Malayemys subtrijuga* in CITES Appendix II has been advocated by the following groups:

The Asian Turtle Trade Working Group (2000), based on the findings of the Workshop on Conservation and Trade of Freshwater Turtles and Tortoises in Asia, held in Phnom Penh, Cambodia, 1-4 December 1999, recommended inclusion of all Asian tortoise and freshwater turtle species in Appendix II, including *Malayemys subtrijuga*.

The participants in the Working Group on Conservation Management and CITES Implementation at the CITES Technical Workshop on Conservation of and trade in Freshwater Turtles and Tortoises, held at Kunming, P.R. China, 25-28 March 2002, generally agreed that all remaining non-CITES listed species

of Asian turtles should be listed under the Appendices of CITES (CITES 2002, CITES Secretariat 2003).

In its presentation at the Kunming workshop, Indonesia specifically listed *Malayemys subtrijuga* as a species to be discussed for listing in the CITES Appendices (Samedi *et al*. 2002).

Chelonian Research Foundation, in an Annex to document AC19 Doc 15.1 prepared by the United States of America (USA 2003) and based on the results of the Kunming workshop, proposed inclusion of *Malayemys subtrijuga* and 23 other freshwater turtle species in Appendix II.

7. Additional Remarks

None.

8. References

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